Basal Reinforcement over Soft Clay Foundation
Central Luzon Link Expressway, Region III, Philippines
Central Luzon Link Expressway (CLLEx) is a toll road currently under construction in Central Luzon region that will connect the Subic–Clark–Tarlac Expressway (SCTEx) and Tarlac-Pangasinan-La Union Expressway (TPLEx) to the currently under-construction North Luzon East Expressway in Cabanatuan towards San Jose, Nueva Ecija.

The project aims to provide a faster access from Metro Manila to Cabanatuan City which is the base (or hub) city for Pacific Ocean Coastal Area Development. It will also decongest the traffic along the Pan-Philippine Highway (Daang Maharlika).

The soil conditions where the expressway will be constructed consist of soft clay foundations which could lead to localized failure of road embankment. Failure occurs due to lack of shear strength to support the road embankment.

TenCate’s Mirafi® PET reinforcement geotextiles provided the most cost-effective solution while achieving a greater and quicker stability of the embankment constructed over the soft foundations.

Solution
Mirafi® PET reinforcement geotextiles have been chosen to address the basal reinforcement for the expressway project.
Geotextile tensile strength of 600 kN/m were used to reinforce the embankment. Each geotextile panel were sewn together on-site with the use of high strength polyester thread. Thereafter, embankment fill was carried out over the Mirafi® PET reinforcement geotextile where the expressway is to be constructed.

The use of Mirafi® PET reinforcement geotextiles provided a greater and quicker stability of embankments constructed on the soft clay foundation.